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April 1, 2008

Mail Stop Appeal Briefs- Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

VIA EXPRESS MAIL

RE: U.S. Patent Application Serial No. 09/844,526
DEEP CRYOGENIC TEMPERING OF BRAKE COMPONENTS
Atty. Dkt. No. 016144

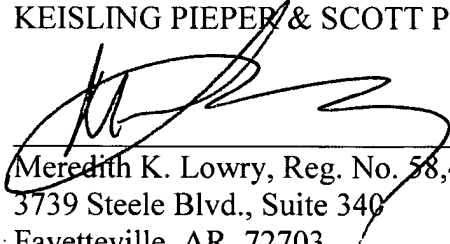
Dear Sir:

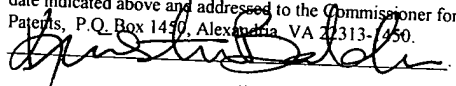
Please find enclosed the Appellant's Reply Brief to be filed with the U.S. Patent and Trademark Office in the above matter.

Thank you for your attention to the foregoing.

Respectfully submitted,

KEISLING PIEPER & SCOTT PLC


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Date of Deposit 4-1-2008. I hereby certify that this
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Docket No. 016144
Customer No. 30,767

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.: 09/844,526
Applicant: Brunson
Filed: 4/27/2001
TC/A.U.: 1793
Examiner : Ip, Sikyin

Confirmation No.: 3732

APPELLANT'S REPLY BRIEF
(37 C.F.R. § 41.41)

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Dear Sir:

This brief is in furtherance of the Examiner's Answer to Applicant's Brief, filed in this case on February 5, 2008.

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In the Examiner's Brief, the Examiner repeated his initial rejections of the appealed claims. The Examiner has rejected Applicant's claims based upon an improper combination of references of Paulin and Workman. However, the combination of references fails to disclose the Applicant's invention and the rationale for combination of references is unsupported by decisions by the Supreme Court and the Federal Circuit Court of Appeals.

A. Invention Patentably Distinct from Hypothetical Combination

"All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

In the Examiner's Answer, the Examiner responded to Applicant's argument distinguishing the stay time of the claimed invention from the stay time of the prior by stating that Applicant's arguments are immaterial given that the claims do not recite a "stay time." In this instance, the Examiner has clearly neglected to properly examine the claims considering step (d) clearly recites the "stay time being a function of the mass and the cross-sectional area of the brake rotors." Applicant clearly pointed out a distinctive aspect of his invention, but this aspect clearly has not been considered in the light required by the Federal Circuit.

Further, the Examiner fails to consider the limitation in Claim 25 requiring the determination of the cross sectional area of the brake rotors. The Examiner argues against Applicant's position requiring the cross-sectional area in the hypothetical combination by arguing that *general knowledge* is that mass is product of volume and density while volume is equal to cross-sectional area multiplied by length. This reasoning fails to follow Federal Circuit

precedent regarding general knowledge observations and fails observe the clear differences between the teachings of Paulin and the Applicant.

It is never appropriate to rely solely on common or general knowledge in the art to create a conclusion of obviousness without evidentiary support in the record, as the principal evidence upon which a rejection was based. *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697. In this situation, the Examiner concludes that cross-sectional area is used to calculate mass, but fails to show evidentiary support as required by the Federal Circuit why this relationship would make the use of cross-sectional area obvious as claimed by Applicant.

A hypothetical problem illustrates the drastic differences between cross-sectional area and mass: the cross-sectional area of a tube measuring 10 inches in diameter with a thickness of $\frac{3}{4}$ inches and 10 inches in length with a density of 7.8 g/cm³ equals **21.79 square inches** while the mass of the same object equals **1699.1 g**. These numbers are drastically different and, regardless of the density of the material, these numbers will always be different.

The use of cross-sectional area opposed to mass is more appropriate for the Applicant's process of treating brake rotors. In response, the Examiner argues that Applicant has failed to claim a specific novel brake rotor structure. Brake rotors are typically a standard structure drastically different from the structure of the gun barrels of Paulin.

Applicant avers that these differences create a patentable difference and would not have obvious to one skilled in the art.

B. Combination of References Unsupported by Case Law

Recent decisions by the Supreme Court instruct that it is legally insufficient to conclude a claim is obvious just because each feature of the claim is independently found in the prior art.

KSR Int'l v. Teleflex Inc., 127 S. Ct. 1727, 1740 (U.S. 2007). When a claimed combination provides an invention that is not a predictable use of the previous elements, then the claim is not obvious. Id. Specifically, a finding of obviousness is unsupported when a proposed combination renders the prior art invention being modified unsatisfactory for its intended purpose. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). As stated by the Federal Circuit, the fact that a reference can be modified does not make the modification obvious unless the prior art suggests that it would be desirable to make the modification. Gordon, at 1127.

Here, the combination proposed by the Examiner takes a cryogenic process specifically tailored for cylindrical objects and combines the cryogenic treatment brake pads to create a cryogenic process treating brake rotors. However, the specific teachings of the references teach against this combination.

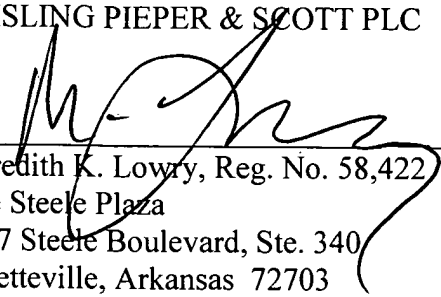
Paulin limits the application of the cryogenic process to gun barrels. The Examiner posits that, since Paulin teaches the treatment of a metal object, the treatment should apply to all metal structures. However, Paulin teaches that the process is dependent upon the mass and the materials treated acknowledging a distinction between the treatment of all metal objects. Paulin, Col. 3, Lines 50 – 67. Applicant's invention is drastically different from Paulin's in that Applicant preforms a cryogenic process specifically for solid plate-like objects whereas Paulin focuses on hollow cylinders. As can be appreciated, the configuration of mass is different for cylinders and plates, which further differentiates the teaching of Paulin from Applicant.

Therefore, the Examiner's combination of references is improper to show obviousness and the rejection should be reversed.

Accordingly, Applicant respectfully requests that the §103 rejection be reversed as the references do not show each and every element claimed within the appealed claims.

Respectfully submitted,

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Date: 4.1.08